Introduction to Cardiac Catheterisation
The Nurse’s Role
OVERVIEW

- Definition of the Catheter Lab Nurse
- Nursing Responsibilities
- Nurse Profile
- Nursing Skills
OVERVIEW

• Definition of the Catheter Lab Nurse
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Definition of a Catheter Lab Nurse

1. Nursing Role
2. Patients’ Advocate
3. Multi-disciplinary Team Member
Definition of a Catheter Lab Nurse

1. Nursing Role
   - Nursing Theory
   - Nursing Process
   - Model of Nursing Care
Definition of a Catheter Lab Nurse

• Nursing Theory

“The unique function of the nurse is to assist the individual, sick or well, in the performance of those activities contributing to health or its recovery...that he would perform unaided if he had the necessary strength, will or knowledge. And to do this in such a way as to help him gain independence as rapidly as possible”

Virginia Henderson 1966
Definition of a Catheter Lab Nurse

Roy’s Adaption Model

- Physiologic
- Self Concept
- Role Function
- Interdependence

Definition of a Catheter Lab Nurse

• The Nursing Process
• Chapman & Hall (1992) outlined the problem-solving approach/cycle:
  • Identify problem
  • Assess priorities
  • Take corrective action
  • Evaluate results
Definition of a Catheter Lab Nurse

- Model of Nursing Care

From “The RCN Standards of Care” 1993
Definition of a Catheter Lab Nurse

2. Patients’ Advocate
   - Definition of Advocacy
   - Who should be an advocate?
   - Model of advocacy
   - Effective Decision Making
Definition of a Catheter Lab Nurse

• Definition of Advocacy
  
The word “advocate” originally stems from the Greek word “advokar”, meaning ‘one who pleads on behalf of the other’
Definition of a Catheter Lab Nurse

• Who should be an advocate?
  “The nurse maybe perceived as being a ‘communication bridge’ between the healthcare team, patient and family” (Copp 1986)
Definition of a Catheter Lab Nurse

• **Model of advocacy**
  There are four models of advocacy described by Fowler 1989:
  • Guardian of patients rights
  • Preservation of patient values
  • Champion of social justice in the provision of healthcare
  • Conservator of the patient’s best interest
Definition of a Catheter Lab Nurse

• **Effective Decision Making**
  In order for the patient to make an effective decision the following components are necessary:
  • Information
  • Clarification of values
  • Support of final decisions
  (Kohnke 1980)
Definition of a Catheter Lab Nurse

3. Multi-disciplinary Team Member

The nurse also liaises with:

- Ward Nurses
- Porters
- Administrative Staff
- Other Lab Staff!!
OVERVIEW

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Nursing Responsibilities

1. Overall
2. Circulating
3. Scrubbing
4. Recovery
5. Joined up Service
Nursing Responsibilities

1. Overall
   - Health & Safety i.e.:
     - Radiation safety
     - Infection control
     - Injuries such as needlestick
   - Patient co-ordination
   - Documentation and Record Keeping
   - Stock Control
Nursing Responsibilities

2. Circulating Nurse:
   – Prior to patient arrival, check:
     • Resuscitation trolley
     • Oxygen
     • Suction equipment
     • Emergency pacing equipment
     • Drugs
     • General stock level
     • I.V.s
2. Circulating Nurse cont.: 
- Checking patient details and risk factors are completed on procedure checklist
- Providing patient with information and acting as their advocate
- Ensuring patient has signed the consent form
- Assessing anxiety levels and creating a friendly, calm environment
Nursing Responsibilities

2. Circulating Nurse cont.: 
- Supplying the scrub staff with sterile equipment
- Monitoring patient vital signs blood pressure, ECG tracing
- Documentation of equipment used, drugs administered, & complications during the procedure
- Monitoring contrast limit to administer fluids if necessary
Nursing Responsibilities

2. Circulating Nurse cont.: 

- Monitor fluid intake and blood results for renal patients
- Monitor blood glucose and how insulin is controlled in diabetics
- Monitor patient’s verbal & non-verbal signs of pain/discomfort
- Maintain patient’s dignity & privacy
Nursing Responsibilities

3. Scrub Nurse:
   - Prepare a sterile trolley with appropriate equipment
   - Maintain a sterile field to prevent cross-infection
   - Ensure all catheters are flushed with heparinised saline to prevent clots and air embolism
Nursing Responsibilities

• **Scrub Nurse contd...**
  – Assist the operator ensuring hospital protocols are adhered to
  – Safe disposal of sharps and blood contaminated equipment
  – Monitor patient’s vitals
Nursing Responsibilities

• Scrub Nurse contd...
• Know your anatomy
  Especially Aorta size and shapes
  Coronary take off
• Know your kit
  Wires and catheters
Diagnostic Catheters

- Judkins
- Amplatz
- Sones
- Multipurpose
- Graft curves
- Williams (3drc)
• Judkins Left

• Designs
• Catheter curve lengths range from 3.5 - 6 cm
• Judkins Right

• Designs
  • Catheter curve lengths range from 3.5 - 6 cm
  • JR 4 MOD - Unbraided Distal tip - 6.5 cm
• Pigtail Catheters

• Designs
  6 - 8 side holes
  Straight
  145° angle
  155° angle
  • Pre-mounted Pigtail Straightener
  • 110 cm in length
• Pigtail Catheters
• Technique to cross the Aortic Valve.
  1. Direct
  2. Indirect
  3. Using a Guidewire
• **Multipurpose**
• **Designs**
  • MPA2 - 60° primary curve
  • MPB2 - 80° primary curve
  • End and two side holes

• **Purpose**
  • One catheter for Right and Left Angiography
  • Left Ventriculography

• **Inferior / Superior Approach**
• Amplatz Left
• Superior or Inferior approach
• Amplatz Right

• Design
  • Modified to reduce the acuteness of the tertiary curve
  • and have longer and softer tips
• **Left Coronary Bypass Catheter (LCB)**

• This catheter has the reach needed for cannulating grafts which are usually superior and to the left of the native ostium
• Right Coronary Bypass Catheter (RCB)

• Design
  • Closely resembles JR4
  • - more relaxed primary curve
  •
  • This catheter has the reach needed for cannulating grafts to the RCA which originate superior to the native right vessel with an inferior take-off
• **Sones Catheters**

• **Designs**
  • SON I - Tip 2.5 cm
  • SON II - Tip 4.0 cm
  • Both have end and four side holes
  • Son II is the most common

• **Superior Approach**

• **Lengths** - 80 and 100 cm
• Internal Mammary (IM)

• Design
  • Is a modified Judkins Right Catheter with a 80° primary curve and longer distal tip.
• **Three Dimensional Right Catheter (3DRC)**
  - Resembles the Williams Right (Cordis)

• **Design**
  - When flat similar to the JR4 but turn 90° and there is another curve.

• **Purpose**
  - To complete a Right Coronary Angiography.
Nursing Responsibilities

• Recovery Nurse:
  – Monitor patient’s vitals, pedal/radial pulses, chest pain/discomfort
  – Remove sheaths and obtaining haemostasis by manual compression
  – Communication with patients
  – Drug administration (where necessary)
Nursing Responsibilities

• Recovery Nurse contd..:
  – Assess & manage haematoma formation
  – Handover to ward staff (patient care delivered and further nursing instructions)
  – Documentation
Nursing Responsibilities

• Joined up Service

Consider:
• Nurse-led pre-assessment
• Post-diagnosis nursing intervention
OVERVIEW

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Nursing Profile

• A Cath Lab Nurse needs to be...
  – A multi-skilled “team player”
  – Organised
  – Adaptable
  – Calm and alert under pressure
  – Accurate and thorough (especially with documentation!)
  – Up-to-date with current practice and research developments
OVERVIEW

• Definition of the Catheter Lab Nurse
• Nursing Responsibilities
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Nursing Skills

Skills

Communication

Basic/Advanced Life Support
Sheath site management
Basic ECG interpretation
Documentation

Knowledge

Cardiac Radiology Theatre

Pain Assessment & Management
Intravenous Drug Administration
Infection Control